



P.B. 5818 - Patentlaan 2
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La Haye
Division de la
recherche

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Zeichen/Ref./Réf. N-6/DE	Anmeldung Nr./Application No./Demande n°//Patent Nr./Patent No./Brevet n° 97110500.2-2111/
Anmelder/Applicant/Demandeur//Patentinhaber/Proprietor/Titulaire Nissin Electric Co., Ltd.	

COMMUNICATION

97110500.2

The European Patent Office herewith transmits the partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The Search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 06/1994.

☐ The abstract was modified by the Search Division and the definitive text is attached to the present communication.

☐ The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims.

Claims searched completely:

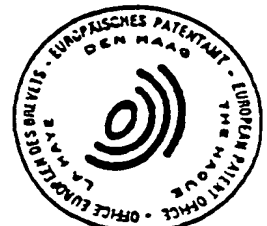
Claims searched incompletely:

Claims not searched:

Reason for the limitation of the search:

☒ Additional copy (copies) of the documents cited in the European search report.

REGISTERED LETTER



ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 97 11 0500

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-03-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0653501 A	17-05-1995	JP 8053767 A	27-02-1996
		DE 69408405 D	12-03-1998
		DE 69408405 T	20-08-1998
		JP 7183236 A	21-07-1995
		US 5562952 A	08-10-1996
		JP 7283153 A	27-10-1995
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		JP 7278822 A	24-10-1995
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		JP 8107077 A	23-04-1996
JP 3130363 A	04-06-1991	NONE	
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		JP 2610469 B	14-05-1997
		CN 1035855 A, B	27-09-1997
		US 4996079 A	26-02-1991
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JP 4041672 A	12-02-1992	NONE	



European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

under Rule 46, paragraph 1 of the European Patent Convention
EP 97 11 0500

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X A	EP 0 653 501 A (NISSIN ELECTRIC CO LTD) 17 May 1995 (1995-05-17) * page 25, line 38 - page 26, line 58 *	1,2,16, 21 22-27	C23C14/06 C23C16/26 C23C16/02 C23C14/02
X	IQBAL S ATHWAL ET AL: "DLC FILMS BY PLASMA ASSISTED CHEMICAL VAPOR DEPOSITION NEAR ROOM TEMPERATURE" DIAMOND AND RELATED MATERIALS, NL, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, vol. 2, no. 12, 1 November 1993 (1993-11-01), pages 1483-1489, XP000413556 ISSN: 0925-9635 * the whole document *	1,2,16, 21	
X	DATABASE WPI Section Ch, Week 199128 Derwent Publications Ltd., London, GB; Class A28, AN 1991-204818 XP002134051 & JP 03 130363 A (NIKON CORP), 4 June 1991 (1991-06-04) * abstract *	1-3,6, 13,16,21	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			C23C
LACK OF UNITY OF INVENTION			
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:			
see sheet B			
The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.			
Place of search THE HAGUE		Date of completion of the search 28 March 2000	Examiner Patterson, A
CATEGORY OF CITED DOCUMENTS			
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	

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EPO FORM 1503 03 82 (P04C27)



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.8)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP 0 330 524 A (SEMICONDUCTOR ENERGY LAB) 30 August 1989 (1989-08-30) * column 3, line 19 - column 6, line 28 * ---	1,2,16, 21,22	
A	DATABASE WPI Section Ch, Week 199213 Derwent Publications Ltd., London, GB; Class E36, AN 1992-100016 XP002134052 & JP 04 041672 A (TDK CORP), 12 February 1992 (1992-02-12) * abstract * -----	16,21,22	
			TECHNICAL FIELDS SEARCHED (Int.Cl.8)



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-3 6 13 16 21-30

Glass or polymer article, in particular a machine part, with carbon coating having another property in addition to wear resistance. First method for making such an article using one of three vapour phase coating techniques.

2. Claim : 4

A structural component having a carbon film on its surface.

3. Claim : 5

Toy or part thereof having a carbon film on its surface.

4. Claim : 7

Pipe having a carbon film on its surface.

5. Claim : 8

Bicycle part having a carbon film on its surface.

6. Claim : 9

Sheet having a carbon film on its surface.

7. Claim : 10

Sport article having a carbon film on its surface.

8. Claim : 11 12

Tyre having a carbon film on its surface.

9. Claim : 14

Rain article having a carbon film on its surface.

10. Claim : 15

Diaphragm of diaphragm pump having a carbon film on its surface.



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

11. Claim : 17

Method for manufacturing an object coated with a carbon film having other properties beside wear resistance. Method characterized by a certain pretreatment step

12. Claim : 18 19

Method for manufacturing an object coated with a carbon film having other properties beside wear resistance. Method characterized by another, unrelated pretreatment step

Prima facie, all twelve subjects are linked by the common concept of a carbon coating having wear resistance as well as at least one of lubricity, water repellency and gas barrier properties. However this feature is known from the prior art (see Search Report) and therefore not novel. It should be noted that, whereas a particular property of the film may not be explicitly mentioned in a given prior art document, any film implicitly possesses such a property. This is especially true since the properties concerned are in no way quantified by the claims. In the absence of a common inventive concept the claimed invention devolves into twelve separate inventions.

Because a significant extra search effort would have been required to search all the subjects, only the first has been searched.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 10 0933

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP-A-0 351 554 (F. BURGMANN) * column 2, line 45 - column 3, line 9; figures * ---	1,4	F16J15/34
A	DE-A-43 02 407 (NGK) * abstract * ---	1,2,8-10	
A	EP-A-0 435 272 (NGK) * abstract * ---	1,2,8-10	
A,D	US-A-4 275 889 (BUTLER ET AL.) * abstract; examples * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			F16J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 7 July 1995	Examiner Narminio, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons * : member of the same patent family, corresponding document			

EPO FORM 150 (12.92) (P4/CN)